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# THE NORTH DAKOTA FARMER



"THE NORTH DAKOTA FARMER FOR NORTH DAKOTA FARMERS"

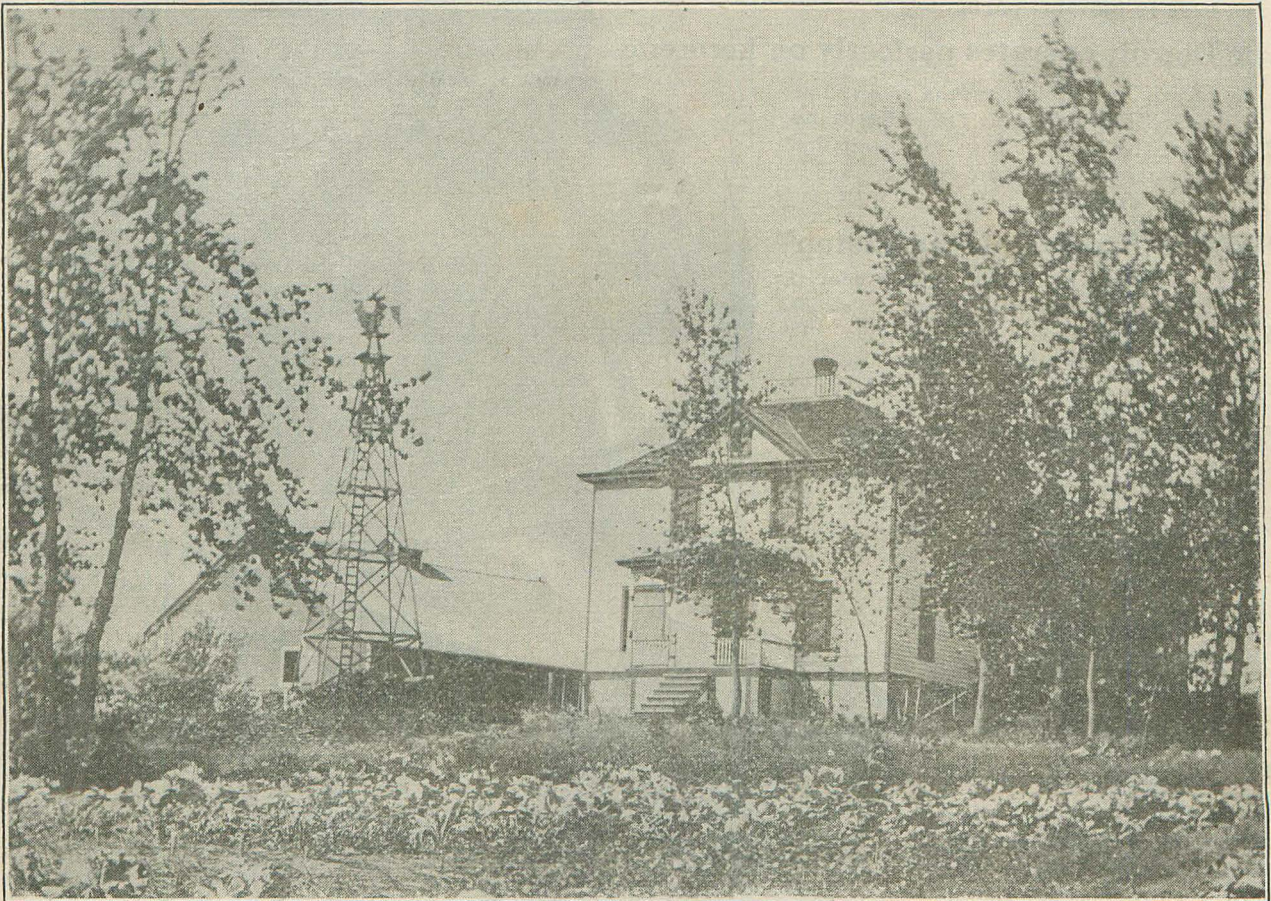
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Vol. 16, No. 12

Lisbon, North Dakota, June 15, 1915

50 Cents A Year



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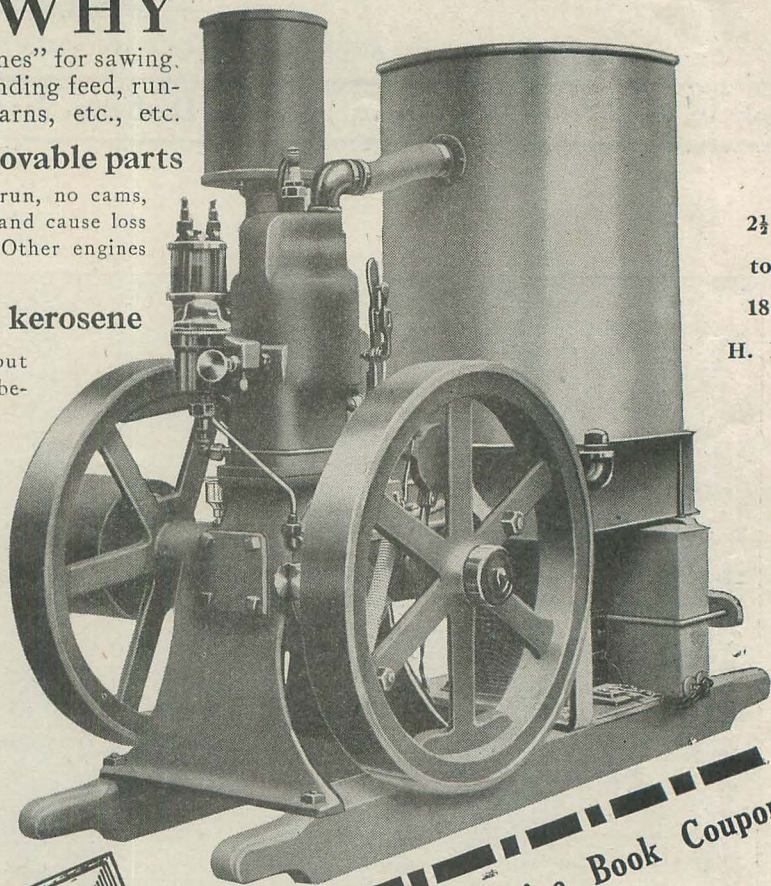
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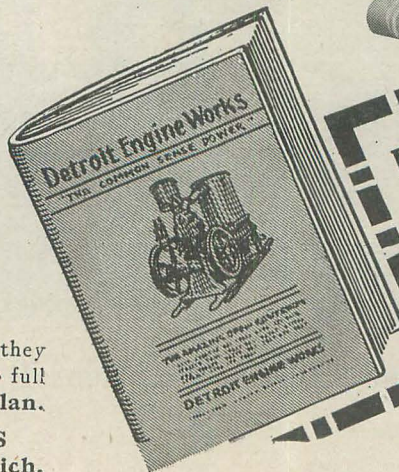


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# THE NORTH DAKOTA FARMER

Vol. 16, No. 12

LISBON N. D., JUNE 15, 1915

50 Cents a Year

## The Stewardship of the Soil

Baccalaureate Address By John H. Worst, Pres. N. D. A. C.

Our ambitious young commonwealth, in conjunction with other states comprising the great Northwest, occupies a commanding position in the industrial and economic affairs of this nation.

Mines of gold and silver or forests primeval North Dakota does not have; but from the millions of fertile acres comprising our vast agricultural empire, we may reap a golden harvest every year that will exceed in wealth the output of all the golden placers in the western mountains.

The harvest of minerals, however, can be gathered but once. Time will not restore the precious nuggets.

The forests once harvested can, at great expense, be renewed in the course of a century; but our harvest of domestic plants and animals recurs with every passing season to recompense the farmer for his toil and to enrich the farmer's friends.

What a precious theme is harvest! The hopes, the well-being, the life of the world is fast bound up in the magic of this single word.

The soil upon which the harvest depends, moreover, is God's benediction to humanity. Measured by consequences, Heaven has vouchsafed no form of stewardship that is fraught with such tremendous responsibilities as this stewardship of the soil. In the final analysis this stewardship represents the farmer's obligation to society.

And yet sacred as is the soil and binding as is the farmer's obligation to society, the means for providing the world's food is nevertheless at his mercy.

It is a well-known fact that the soil can readily be depleted of its fertility and thus robbed of its strength by a system of exploitation, commonly referred to as "extensive farming." Too much of our land is being thus exploited. On the other hand the productivity of the soil may be very greatly improved. Denmark, Belgium, Germany, and other European

nations have fully demonstrated that by the application of science to the art of agriculture, the productiveness of the soil can be multiplied almost to the limit of necessity.

**A Progressive Agriculture.** Fortunately Nature has supplied every means for the development of a progressive and permanent agriculture. It is also obvious that it is man's privilege, if not his mission, to improve upon Nature—to substitute quality for mere physical endurance, in agricultural products.

By the grace of Providence the individuals of the animal and vegetable kingdoms were not created inflexible in habit or perfect in form, but they may be changed in character and quality and intrinsic worth at the will of the intelligent and observing farmer. To this end agricultural education lends its beneficent influence. Man's dominion over Nature would be such in name only were it not for the class-room and the laboratory, for research and investigation; for by these means scientific knowledge is obtained and diffused and eventually brought to bear upon the solution of the most vital problems that concern the human family. These problems center largely around food and clothing. To supply these necessities an industry is created—the business of agriculture—the most important industry in all the world. An industry of such fundamental importance, moreover, should receive from the states and from the federal government financial consideration in proportion to its moral and economic importance as well as to the probabilities that may be entertained for its continued improvement. For abundant as are earth's natural resources, yet without the aid and direction of human intelligence they could not supply the world's ever increasing population with food, clothing and shelter. Complying with known conditions of natural reciprocity, however, the animal and vegetable kingdoms submit to

whatever modifications become necessary in order to supply the needs of the human family.

**Nature's Forces Operate Blindly.**

Moved, therefore, partly by necessity and partly by curiosity, the material world has been and is being continually modified by the ingenuity of man. Undirected, however, Nature's forces act blindly; hence, produce mainly such qualities in organic life as endurance, or adaptation to local soil and climatic conditions. In the animal and vegetable kingdoms the universal demand of Nature is to perpetuate their species—"to produce after their own kind." In accordance with this law the humblest plant or animal is compelled to maintain a perpetual warfare against its fellows for means of subsistence.

This competition for nourishment is usually so sharp and continuous that mere existence or endurance rather than excellence or quality, seems to be the end and aim of natural law. Hence, the strong survive and the weak perish.

**Beginnings of Agriculture.** Here agriculture begins. By relieving plants of this intense competition by means of tillage, and by selecting the most promising for domestication, they are enabled to use all their energy for the development of those qualities which add to their intrinsic value, instead of expending it in the struggle for existence. Given, thus, free access to the soil and sunshine, with needful nourishment supplied and their fungous or parasitical enemies destroyed, the domesticated plants yield trustful obedience to the protecting hand of the husbandman. Freed altogether from the necessity of self-protection they become prolific and pour into the world's bread basket in marvelous abundance the seeds—a single one of which would suffice to answer Nature's law for the propagation of species. This surplus of yield for which each plant has need of but a single seed, and more especially this



improvement of quality for which the plant has no concern, is Nature's reciprocal reward for having given her children gratuitously that protection which otherwise they would have had to provide for themselves.

Nor is animal life less susceptible of improvement. Between the animal wild and the animal domesticated—that is whether Nature-bred or man-bred—the range in quality is as marked as that which separates the savage from the philosopher.

Nature demands only strength, endurance; but man demands quality and excellence, and he proceeds scientifically to accomplish his purpose. By conscious design and a sort of mental architecture the animal to be is planned, and the picture thus conceived in the brain of the breeder becomes incarnated in the form, size and character of the animal. Not only is the animal created with the desired quality as to its parts and products, but its nature is transformed from fear and ferocity to that of trust and docility.

For example the descendants of the wild horse are not only changed from vicious brutes to trustful beasts of burden, but are also differentiated into many different breeds to meet the demands of strength, speed or endurance. Specimens of such breeds as the Belgian, Percheron or Hambletonian exist as monuments to the breeder's art no less renowned and for more useful purpose than anything in Nature, the likeness of which the sculptor has wrought in marble or the artist has transferred from life to canvas.

From the wild buffalo, presumably, the ideal strains of pedigree kine, for beef or dairy products, have been created as surely and even more scientifically than the sculptor has immortalized his ideals in granite or marble.

Thus animal life is to the skillful breeder as clay in the hands of the potter, and tho a supersensitive and artificial generation may look upon this form of genius as vulgar, it nevertheless is God's work and the doers thereof are working with God. For without this incarnation of quality into plant and animal life the world's population could not supply its fundamental wants nor could civilization rise above the animal instincts in man.

The farmer, therefore, is a most important personage, and his vocation the most absolutely needful in all the world. The farmer is in very truth a creator, certainly a co-creator, improving Nature by the aid of science, just as the human mind and character are improved by means of education. And when the prejudice of the ages

has been rolled away the name "farmer" will rank among the most envied names that enrich our mother tongue. Here, indeed, may be verified the saying: "The first shall be last and the last shall be first."

While we honor the sculptor, the painter or the poet whose genius partakes of the immortal, and yet satisfies no hungry mouth, some degree of honor might well be given to this other sort of genius which has multiplied human food beyond computation and has otherwise so largely mitigated the burdens of life.

**Vocational Education.** From the foregoing it is little wonder that the education of the masses is surely and rapidly gravitating from the classical to the utilitarian, from the formal to the vocational. The world's work must be done, and as those whose stewardship is the soil are compelled to render a combined physical and mental service in order to discharge their social obligations, they are entitled to education in harmony with the tasks awaiting them, to the end that they may work intelligently, hence joyfully.

Agriculture and engineering, therefore, are fundamental vocations when considered either from the view-point of necessity or the country's prosperity. By many, however, the spiritual well-being of a people is considered paramount, and in a sense it is, but a cheerful soul seldom inhabits a naked or hungry body.

As food, clothing and shelter are absolute necessities, no degree of culture or religious enthusiasm can render them less needful. Heaven's choicest physical gift, the soil, provides the means for acquiring these indispensable necessities, and the vocation that accepts the responsibility of its stewardship ministers to the physical, as educators minister to the mental, or the clergy to the spiritual needs of man. Moreover, in the order of Nature the physical takes precedence, being primary and basic, and until legitimate physical wants are supplied neither mental nor spiritual food can be satisfactorily assimilated.

A commonwealth, therefore, that educates her children in due proportion to and in harmony with the demands of her principal industry, acts the part of wisdom. In this the state becomes the servant of both present and future generations by training her children for the conservation of Nature's gifts, while yet multiplying their use for the comfort and happiness of all the people. If the clergy would preach occasionally from the book of Nature, they would discover a proximity to and dependence upon God enjoyed by him who sows and reaps,

who cultivates animals and flowers, who creates things and works miracles as his ordinary life work, which few others can enjoy. Such themes might not only be expounded with profit to those who work their fellowmen, but should also be impressed betimes upon those who work the soil for the good of their fellowmen.

**The Paramount Problem.** The paramount problem, therefore, is to make the conditions of rural life desirable—to convert farming into an enjoyable vocation; to make farm life and its labors a business to be envied and not despised. The fact is, planning for beauty and comfort in the city has progressed far and away beyond the country. It now but remains for the country to catch up and go the city many times better. This is entirely possible, since the great "out doors" is a country heritage and ample spaces are available for exterior delights such as trees, shrubbery and flowers, and for free access to abundance of pure air and sunshine.

Moreover, we should not forget that we are now living in a new world. The old agriculture and its associated rural industries have been shaken to their very foundation. This makes the solution of the rural problem, to some extent, speculative.

For one thing the country is becoming urbanized. This may prove helpful. Again it may not. Individualism, however, is giving place more and more to commercialized enterprise. At the same time the evils of transient tenantry follow close upon the heels of successful farming, where farmers rent their land and move to town; and also of unsuccessful farming, where the mortgage shark eventually becomes possessed of the land. What the state needs to encourage, therefore, is farm ownership by the many rather than by the few, and farm ownership rather than farm tenantry. We must retain on the farm, as farmers, the best type of American manhood and womanhood or the nation will fall into decay, just as Rome fell with the decline of her agrarian influence.

The consolidated country school, by rendering obsolete the one room district school house, is a progressive step toward improved educational facilities for rural children.

The country church, on the other hand, has become more decadent than aggressive. This among other rural agencies is not organized in proportion to its importance. Some progress, however, is being made by means of social organizations, but the ultimate solution of the rural problem depends more largely upon education than upon any other single factor.



**Rural Social Leaders.** Rural social leaders in full sympathy with the country life movement will find here a fruitful field for earnest endeavor. To no class should the state look for such leadership, and with so much assurance, as to the alumni of its Agricultural College. Educated at public expense and in an institution of higher learning that stands specifically for all-round rural improvement and rural patriotism, the students that go out from this college cannot misinterpret their duties nor fail to understand the responsibilities they assume as graduates of the North Dakota Agricultural College. Nor is their field of labor an unenviable one. It may at times seem irksome, even discouraging, but nevertheless it is the most exalted and dignified calling to which men and women of special training and culture can aspire.

To rescue the soil from the indifference and greed and selfishness wherein this generation unwittingly robs succeeding generations of their rightful inheritance, and to rescue the very vocation of agriculture from mercenary interests is a mission worthy of the best leadership and patriotism of our day. But it must not stop even at this. The public welfare demands that nearly half the population of the entire country, and certainly four-fifths of the population of this state, shall permanently pursue agriculture for a livelihood. This vocation, therefore, must be made so desirable and satisfying that that number will joyfully accept it as a matter of free choice. It must be so developed that it will afford an unsurpassed market for energy and brains, and so independent of parasitical interests that when two bushels of wheat are grown where one now grows the producer will receive the benefit.

*(To be Continued.)*

## DRY FARMING INVESTIGATIONS

The dry farming investigations that have been carried on at the Edgeley, Dickinson, Williston and Hettinger Sub-Stations are published in Bulletin No. 110, North Dakota Experiment Station. It states that the only moisture available is that which falls as rain or snow, and that the problem is to keep the soil so that it will take in the most of this and then to hold this moisture in the soil till the crop needs it. It was found that but little evaporates from the surface of the soil and that most of the moisture is removed by the plant, which emphasizes the need of keeping down the weeds. Corn was found more profitable than the summer fallow.

The bulletin also takes up length of season, storage of soil moisture, length of frost free period, rotation of crops, sequence of crops, green manure, stable manure, forage crops, time of plowing, cultivation, the harrow, the weeder, cultivation, several charts are given to illustrate the rainfall, rotations, yields, etc.

1. Climatic conditions are the chief determining factors in crop production in western North Dakota.

2. The amount of rainfall during the growing season is a better criterion of crop production than is the annual rainfall.

3. Available records show the average frost-free period to be 129 days at Edgeley, 119 days at Williston, and 110 days at Dickinson.

4. Even with alternate cropping, water is seldom stored to a greater depth than that from which annual crops can recover it.

5. While stored water may be of value in supplementing rainfall, it is unable in itself to mature a crop in western North Dakota.

6. Shallow soils are not as responsive to tillage as are deeper soils.

7. Prevention of the growth of weeds is a much more important function of cultivation than is the maintenance of a mulch.

8. Summer tillage has a certain value as insurance against crop failure. It has not, however, increased average yields over those obtained by other methods enough to warrant giving it more than a secondary and temporary place in the agriculture of this section.

9. The application of barnyard manure has shown marked value.

10. Sod crops should not enter into short rotations.

11. Neither fall nor spring plowing has a marked advantage of one over the other in the average of a series of years.

12. Disking land upon which a crop of corn has been raised, and kept free from weeds, is as good a preparation for the succeeding grain crop as plowing.

## THE DISHONORED NOTE OF A ST. PAUL MILLIONAIRE

### A Visit to Point Loma

(Charles Cristadoro, who has written many articles for the North Dakota Farmer, has become endeared to the editor and the publisher. His wonderful optimism is indeed stimulating.)

Charles Cristadoro, the box expert laureate, was visited at Point Loma, Cal., recently. If the days are pleasant he spends them in the corner of

his lath house in the garden, sheltered from sun and wind, and writes from his invalid's chair. If, on the other hand, the days prove foggy, or at all inclement, Mr. Cristadoro then spends his time in bed, working therefrom.

His room is a curious combination of editorial sanctum and bedroom. It is but 8x12 feet, has three large windows, ample shelves, and extra long and wide ones at his bedside. The wall shelves are packed solid with volumes, bulletins and pamphlets, mostly from the United States department of agriculture, and treating upon dry and irrigation farming, experimental farming, dairying, soil fertility, etc. A revolving bookcase holds reference books, stores of writing paper, the "editorial" paste pot and scissors, and literary impedimenta of all kinds.

The walls are closely covered with photographs, and even the ceiling is decorated with photographic prints, so arranged that, when resting upon his back in bed, they meet his eye at the proper angle.

Attention was drawn to a paper secured between two panes of glass, which on investigation proved to be a note of hand, of years ago, for \$8,000, evidently unpaid by the party thereto, or Mr. Cristadoro would not have it in his possession today, duly framed.

"Why do you keep that note framed between glass?" Mr. Cristadoro was asked, and he at once launched into the history of that note, and it covered much ground and proved highly interesting. A framed and unpaid millionaire's note is a curiosity.

But again he was specially asked why he kept it framed and in sight, to which he replied that he did so as a reminder of other days, when things were different, and more than that, for despite the fact that the party went thru bankruptcy years ago, which made the note worthless, Mr. Cristadoro believed him at heart an honest man; and now having amassed a fortune of several millions of dollars, represented in his growing business, Mr. Cristadoro seemed obsessed with the idea that the man would pay up. Why, said Mr. Cristadoro, that man declared that on account of the peculiar manner in which the money was secured, that note was considered by him as a debt of honor and that he would, if necessary, sell the shirt off his back to pay it.

And curious to relate, and despite the fact that the note has been running for fifteen or more years, Mr. Cristadoro's nature is so optimistic and his confidence in his fellowman is such that he believes implicitly that the honesty inherent in the man will induce him to vindicate his good name



and keep his signature holy and respected. There's no getting away from a debt of honor, for it follows a man to the very brink of the grave. A debt of honor does not of necessity bear interest.

Mr. Cristadoro says the party to the note recently, two years ago, came to California and made some remarks to some friends of Mr. Cristadoro up in San Francisco that led to a belief that he would soon make the note good. But other interests no doubt diverted him. And Mr. Cristadoro explained how easy it was in a transaction like this to put off its consummation from month to month, forgetfulness, oversight, etc.

It was suggested that Mr. Cristadoro furnish a copy of the note, with names, date, etc., for publication; but Mr. Cristadoro refused to grant this. He said his confidence in the inherent honesty of the man was yet strong, but added that a further visit be paid him in three to six months, when his present objections to publicity in the meantime might be removed.

It was a great demonstration of one's confidence in the honesty, integrity and uprightness of his fellow-man, even if appearances were strongly otherwise; and it is to be hoped, for Mr. Cristadoro's sake, that it is not a case of misplaced confidence and that his trust in and optimistic view of human nature may be fully warranted by the outcome.—Barrel and Box.

#### VALUE OF A WOMAN'S WORK IN THE FARM HOME

W. C. Funk

The woman plays an important part in the successful operation of many farms. Frequently, however, the extent of her work is not appreciated, and in many cases little attention is given to improvements in the house because the labor thus saved, in its relation to the general farm operations, is not deemed commensurate with the money expended.

To illustrate the value of such work performed by some women a record is here given from a 320-acre farm in North Dakota. The size of the family on this farm averaged seven adults during the year. Four of these were hired men, the other three being the farmer, his wife, and a grown daughter. The wife and daughter did all the housework, all the laundry work, and cared for an eight-room house. They canned 300 quarts of fruit and 100 quarts of vegetables and did most of the work in the vegetable garden. Practically all the vegetables consumed were produced on the farm.

Among the important articles of food they prepared for home consumption during the year were 50 bushels of potatoes, 3 bushels of green beans, 4 bushels of green peas, 3 bushels of onions, 400 head of cabbage, 10 bushels of turnips, 6 bushels of beets, 3 bushels of cucumbers, 6 bushels of tomatoes, 36 head of cauliflower, 7 bushels of sweet corn, 1900 pounds of flour, 144 pounds of coffee, 1800 pounds of dressed pork, 200 head of poultry, 520 dozens of eggs, and 312 pounds of butter.

This farmer's wife valued her own and her daughter's labor at \$520 per year. The estimate is probably too high, but \$200 of it may safely be charged to the farm as representing the value of the labor required in caring for the four hired men above the normal labor required in caring for the farmer's family. This \$200 is a direct contribution to the business of the farm. On many farms the labor contribution of the farmer's wife or daughter is the limiting factor between success or failure.

#### ALCOHOL DISTILLERIES IMPORTANT TO GERMAN AGRICULTURE

The importance that alcohol distilleries may assume in scientific agriculture is pointed out in a recent professional paper published by the United States Department of Agriculture under the title of "Agricultural Alcohol; Studies Of Its Manufacture In Germany." The results of the author's study indicate that the manufacture of alcohol for technical purposes, not for human consumption, is not regarded in itself as a profitable business but as a necessary factor in general farming. The distilleries provide a market for Germany's enormous potato crop, which in turn has made possible the profitable cultivation of large tracts of light sandy soil in the east. The spent mash again is returned to the farmers from the distilleries and used as feed for cattle, which furnish manure for the enrichment of the soil. On account of the pressure of the population and the desire to cultivate as large an acreage as possible, German farmers have not been raising as much livestock as would be good agricultural practice, and anything that tends to stimulate them in this direction is regarded as most desirable.

Approximately 6,000 agricultural potato distilleries are now in operation in German Empire. Many of these are co-operative distilleries in which it is interesting to note that the co-operators do not hold shares having a certain money value, but possess the privilege of calling daily for a certain

quantity of spent mash. To the potato crop itself an eighth of the arable land in the German Empire is now devoted, and the production is enormous.

In some instances crops of more than 535 bushels per acre have been harvested, while yields of 300 to 375 bushels are quite common. Altho such yields are produced only under favorable circumstances, it seems obvious that the total yields can be very considerably increased if new uses for alcohol can be discovered to create the necessary demand. At the present time in the eastern provinces it is the price of spirits which regulates the price of potatoes.

#### A STUDY IN CATTLE

**Jersey Breed.** The Jersey was one of the first dairy breeds imported into this country and for that reason it has been one of the best known in the United States and it has been raised more widely than the other breeds up to date. The breed is fawn colored but quite variable in shade, ranging from brown to a silver fawn. Most of them are a solid color, altho white markings often occur. In form the breed approaches closely the dairy type in most respects. They have very shapely and attractive heads. The horns are comparatively small, short, and curved forward, upward and slightly inward. The udder of the breed is usually mellow and milks out well but is frequently criticised for its small size and small teats. The Jersey is the smallest of the four breeds under consideration. The cows will average about 900 pounds and the bulls 1300 pounds in weight. The breed is famous as a butter producer and for the amount of butter fat in their milk but they only produce a moderate quantity of milk. The milk averages 4.5 to 5 per cent fat. The breed ranks high as a producer of butter fat, judging from their rating in competition with other breeds in public tests. There is no doubt but what some of the larger breeds of dairy cattle will give better results under our North Dakota conditions unless they are carefully handled.

**Guernsey Breed.** This breed has for its home the island of Guernsey where they have been bred by the people of that island in a very painstaking manner for a long period of years. The prevailing color of the breed is yellowish or reddish fawn, mixed with white. The muzzle is buff or flesh colored, surrounded by a whitish or yellowish circle of hair. In form this breed is pronouncedly angular and often shows indications of coarseness. As a whole they conform



quite closely to the standard dairy type. The Guernsey cattle are somewhat larger than the Jerseys. They give an average quantity of milk, and milk persistently. There are many cows in the breed which have produced over 10,000 pounds of milk in a year. Guernsey milk tests quite high in butter fat, ranging from 4 to 4.5 per cent on the average. The breed ranks high as a producer of butter fat.

**Holstein Friesian Breed.** The native home of this breed is Holland and it has been one of the factors adding to the fame of that country for its dairy products. The breed was introduced at an early date into this country. They were brought in by the early Dutch settlers, and were imported in considerable number up to 1860. The merits of the breed were not appreciated in this country until the last twenty years, as most people were prejudiced against them, due to the fact that their milk tested low in butter fat. The breed is readily distinguished by their black and white color. The proportion of the two colors varies in individuals of the breed to a large extent. More white than black is the most preferable color. They are large framed, strong boned cattle—resulting from the rich and luxuriant herbage of the fertile and moist reclaimed lands upon which the breed was perfected in their native country. While their frames are large they conform quite closely to the dairy type in most respects. The breed is noted for their large udders which are a necessity on account of the quantity of milk they produce.

The Holstein Friesian is the largest of the dairy breeds. It is not uncommon for mature cows to weigh from 1400 to 1500 pounds and mature bulls, 2000 pounds. The breed out classes all others in the amount of milk produced.

**Ayrshire Breed.** This is a Scotch breed of dairy cattle having been improved in the country of Ayr in Scotland. The color is red or brown, flecked with white. Many members of the breed have a larger proportion of white than red or brown. They have well developed forms, and correspond quite closely to the requirements of the dairy type. They have capacious bodies; long, well sprung ribs; broad, long and well developed rumps and thighs of the desirable shape. They are noted for their perfect form of udder. The udder is better developed in the forequarter on the average than in any other breed. The Ayrshires are about medium in size. The cows of this breed are liberal producers of milk, judging

from official records they have made. This breed also ranks among the first of the dairy breeds as a producer of beef.

**Milking Shorthorn.** The dual purpose type of Short-horn represents the Bates family of the breed—the family of the breed most generally raised in this country until the past 15 or 20 years. The characteristics of this breed with the exception of the form is similar to the characteristics of the Short-horn breed proper. They have some excellent milk and butter records to their credit. In fact they have compared very favorable with the dairy breeds in the public contests held at the different public fairs and expositions.

**Red Polled Breed.** This breed was improved in England. They were not imported into this country, but to a limited extent until after 1875 to 1880. The breed is of a solid red color varying in shade somewhat, but a medium red is preferable. They are polled (free from horns). They represent the dual purpose type as far as form is concerned quite closely. The breed is about medium in weight. The milking Short-horn surpasses them in this respect. The lack of size is a common criticism held against the breed by many of our farmers. The breed ranks well as a producer of milk and butter. Several cows of the breed have produced to exceed 10,000 pounds of milk in a year. The breed also ranks very well as a producer of beef. They fatten readily and the quality of the flesh is of high grade.

**Short-horn.** The Short-Horn in the course of its development has been represented by three families—the Bates, the Booth, and the Cruickshanks or Scotch cattle. The breed varies in color: red roan, white and red and white are found in the breed. The Short-horn is considered the largest of the beef breeds. In form the breed has a more nearly square or rectangular appearance than any of the other breeds because of the squareness of the rump, the straightness of their top and underlines and prominence of their brisket. They have soft coats of hair and mellow handling skins. They mature early or in other words, put on flesh at an early age and make rapid gains in the feed lot. They are the best milkers of the beef breeds, for the reason that some of the milking tendencies of the early ancestors of the breed are still retained. The Short-horn breed is the most widely distributed breed of beef cattle in this country because of their popularity upon the farms where beef production is practical.

**Hereford.** This breed derives its name from its native district in England and has always been bred with the distinct beef type in mind. The color of the breed is a dark or cherry red with white on the face and head, throat, chest, legs, belly, twist with small stripe on top of neck extending to the shoulder. The breed conforms well to the beef type in nearly every respect and consequently is looked upon favorably as a breed for the production of beef. Early maturity and grazing are cardinal qualities of the breed. They are not heavy milkers but produce enough milk to grow their calves successfully.

**Aberdeen Angus.** The breed had its origin in Scotland in the county of Aberdeen from which it takes a portion of its name. They are solid black with white allowable only on the underline, in case of males. The breed for the most part conforms to the general type of the beef animal except as to squareness, which gives way to a rotundity of form. They are one of the earliest maturing of the beef breeds and are admirably adapted to the production of baby beef. They milk well for a breed so strictly beefy in type, but they will not compare favorably with the dairy breeds in this respect.

**Galloway.** This breed also derived its name from its native district in Scotland. It is black in color with no white admissible except below the underline. They have heavy, long, curly coats of hair which afford protection against severe weather conditions. The breed does not acquire as much size as the other breeds and does not mature as early. It is a low set rather symmetrical breed but many of them have excessive length and lack thickness and depth in proportion. They do not mature as early as the other breeds discussed, however, they are not markedly lacking in this respect. They have scant milking qualities.

#### SOME EGG ITEMS

Massachusetts each year pays \$20,000,000 for eggs and poultry raised outside of the state, in addition to \$4,000,000 more for that raised in the state.

A medical authority says the shell of an egg is used as an antacid, being better adapted to the stomach than chalk. The white of egg is an antidote in cases of poisoning with strong acids or corrosive sublimate. The poison will coagulate the albumen, and if these poisons be in the system, the white of an egg if swallowed quickly will combine with the poison and protect the stomach.



# In the Field and Garden

## CORN CULTIVATION

The depth at which corn is cultivated has a good deal to do with the yield. A plant sends its roots as near the surface as it can find moist soil. When the cultivation is shallow, the roots can come quite near the surface without being disturbed. When the cultivation is deep, a number of the roots are out and the plant retarded.

At the North Dakota Experiment Station, trials have been made in cultivating corn shallow and deep. The yields were five and one-tenth bushels more on the shallow cultivated.

The shallow cultivation also saves work in cultivating or makes it possible to get over more field in a day, and the weeds can be kept down as easily by the shallow cultivation as by the deep cultivation, if done at the proper time.

## BOX ELDER PEST

C. B. Waldron, N. D. Exp. Station

The box elder aphid or plant louse is troublesome in many parts of the state this spring.

The aphid has been reported in unusual numbers all thru the north central part of the state, and is found commonly on pretty nearly all box elder trees. The eggs from which these insects hatch were laid on the twigs last fall. The hatching begins about the time that the new leaves appear. Because of their peculiar means of reproduction, the aphidae increase in numbers to such an extent that a single insect at the beginning of the season thru her offspring will give rise to many thousands before the end of the summer.

These insects feed by sucking the sap of the plant from the young twigs and leaves. Since they do not eat the foliage, they cannot be destroyed by any form of insect poison. They must be killed by what is known as a contact remedy. The best remedy for this purpose is kerosene emulsion. This is prepared in a small way by

dissolving a fourth of a bar of hard soap in two quarts of hot water that is kept boiling while the soap dissolves. To this is added one quart of kerosene, stirring thoroly until a creamy lather is obtained. To this mixture add ten quarts of water. It is then applied to the trees as a fine spray, using force enough to thoroly wet all the foliage. Some reports that have come in state that in some of the trees the foliage has already dried up on account of the attacks of these insects.

## GAS IN SILO

Gas may form in a silo at the time of filling and for a week or so afterwards. This gas is heavier than air and so will settle in the silo. As soon as filling the silo is started the falling silage will stir up enough air currents to drive out the gas. A good way to determine if there is gas in a silo is to lower a lighted lantern. If it goes out, it will not be safe to go into the silo.

At the Athens Ohio State Hospital Farm four of the patients went into a silo to tramp the ensilage and were overcome. The fifth one noticed what happened and help was called. It was about ten minutes before they were taken out but it was too late to save them. This was an above-ground silo. The silage had settled three feet during the night and was about five and one-half feet below the door opening.

It will be well when filling pit silos not to go into them before some silage has been run in, or to use the lantern test.

## CANKER WORM


C. B. Waldron, N. D. Exp. Station

The canker worm, more commonly known as the measuring worm, is quite abundant in many parts of the state. It hatches from eggs that were laid upon twigs last fall. These eggs were laid in clusters of thirty or forty, and are easily seen with the naked

eye. The eggs hatch into very minute caterpillars, from a yellowish green to a greenish brown in color. They eventually grow to a length of about an inch and a half. They were very numerous all over the western part of the state last year; in some instances defoliating all of the trees over large areas. It will be recalled that these insects appeared in great numbers about twelve years ago in Fargo, at which time many shade trees and forest trees along the river were killed.

The remedy for these insects at this time of the year is either Paris Green or Arsenate of Lead. Paris Green is applied at the rate of one-half pound to 50 gallons of water, and Arsenate of Lead, when used in the powdered form at about the same strength. When used in the paste form, in which it sometimes comes, about two or three pounds should be used to 50 gallons of water. It is important to get these poisons upon the trees as soon as possible after the insects hatch. Very little is accomplished if one waits until the leaves are nearly eaten off.

The canker worm is the larval form of a moth, the female of which is



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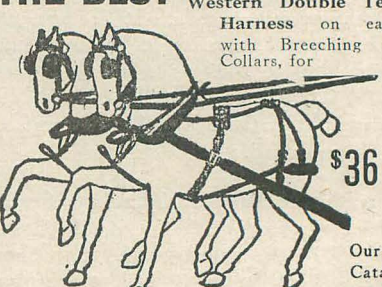
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wingless. On that account, she has to climb up the trees in order to lay her eggs. For this reason, a mechanical obstruction of some kind placed about the trunk of the trees in the fall will prevent egg-laying upon the twigs. This obstruction may consist of a tar paper collar tacked around the body of the tree in such a manner that it flares outward. Or it may consist of

ber. If trees are infested with the canker worm, one should not wait for this remedy but should apply the poison at once.

#### THE USE OF PARIS GREEN AND BORDEAUX ON THE FARM

J. W. Ince, N. D. Exp. Station

These two chemicals and a number

chemical compounds which are coming into common use but it is not advisable to try any of these, with the possible exception of lead arsenate, which is rapidly replacing Paris Green. It is



Montana Fruit on the W. R. Crockett Ranch, near Red Lodge, in the Shadow of Perpetual Snow.

some sticky substance applied to a band of paper which is tacked directly around the body of the tree. One of the substances used for this purpose is Dendrolene, which can be obtained thru the druggist. Thumm & Co., Grand Rapids, Mich., who manufacture the Tanglefoot Fly Paper also manufacture a band which is especially designed for this purpose.

There is no object in applying the bands until about the first of Septem-

ber. If trees are infested with the canker worm, one should not wait for this remedy but should apply the poison at once.

The chemicals which are used serve either to kill bugs and insects, or to prevent plant diseases, as rots, blights, and wilts. The first class are called "insecticides," and the second class are called "fungicides." There are other

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quite probable that more effective chemicals will be prepared and prove their worth in the future.

Both Paris Green and lead arsenate contain arsenic and it is this substance that kills the potato bugs. Paris green seems to be the more rapid in its action. Lead arsenate, however, sticks to the plant better and one spraying will outlast two sprayings of Paris Green. This practically halves the cost of spraying, since the big item is the cost of application. Paris Green is used at the rate of one pound to 50 gallons of water. Lead arsenate paste is used at the rate of three pounds to 50 gallons of water. Both of these chemicals can be purchased ready to use—Paris green in the form of a powder and lead arsenate as a powder or paste, the latter containing about one-half water.

Bordeaux is a mixture of equal parts of quicklime and "blue-stone" or copper sulphate in water. The copper compound produced in this way is the effective substance in destroying fungi. No other fungicide seems to be as efficient or suitable for potatoes as Bordeaux. Altho it can be bought as a powder or paste ready for use, it is advisable to make the mixture just before use, since freshly prepared Bordeaux gives the best results. Five pounds of quicklime slaked in two gallons of water, and five pounds of copper sulphate dissolved in two gallons of hot water, then both poured at the same time into 50 gallons of water with much stirring, will give good results.

It is an excellent plan to use a combination of a fungicide and an insecticide. Add one pound of Paris Green or three pounds of lead arsenate paste to 50 gallons of Bordeaux. This mixture will kill two pests with one spray. Similar mixtures can be purchased; they usually have trade names such as "Pyrox," "Bordo-lead," etc. When prepared and guaranteed by reliable manufacturers, it is safe to use them.

Sprays may be applied in a number of ways, from "dusting" the powder upon the plant to using the modern high pressure tanks of different sizes and arrangements. Don't apply the chemical too thickly, it might burn the plant, but be sure to have the spray strong enough or it might not do the work expected of it. It is advisable to use equal weights of Paris Green and quicklime as the latter helps prevent any possible burning of the leaves. A small portion of flour is efficient in increasing the adhesive property of the spray. It is not necessary to use the arsenical sprays, that is, Paris Green and lead arsenate, before the slugs begin to appear. It

is advisable to use Bordeaux, on the other hand, as soon as the vines are six to twelve inches high and regularly at two week intervals about three or four times during the season thereafter. Very often the time spent in spraying has meant all the difference between a crop and a half-crop or even no crop at all. As already indicated, it has been proved that spraying gives large returns. If we look upon it as a form of insurance, the premiums are returned annually in equal or greater dividends.

#### AN ENGINE ON THE BINDER

One of the most interesting uses to which gasoline engines are now being put on many farms is their application to moving machines, such as grain binders, to drive the sickle and elevator, leaving the horses nothing to do but pull the binder.

By the use of such an engine, two horses will handle an 8-foot binder in heavy grain without trouble. It is thus a saver of horseflesh.

Besides saving horses, the engine makes it possible to cut lodged or wet grain, which often cannot be done without it. In lodged grain, if the binder becomes clogged it is only necessary to slow down the team, and the sickle and elevator will clear themselves, as they keep on going as fast as ever, being driven by the engine.

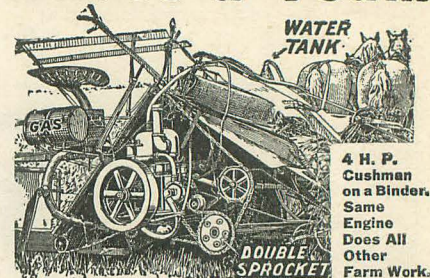
In a wet field, if the bull-wheel slips, it has no effect on the sickle, consequently it does not get clogged. Many a farmer has saved his crop during a wet season by the use of an engine, when it would have been impossible to cut without it.

Engines used for this purpose are of the light-weight high-speed throttle-governed type. Such engines are now being adapted also to a similar use on hay balers and other machines, besides all general farm work.

Another item to be considered in the use of an engine on the binder is that of less wear and tear. The greatest wear on the binder comes from the bull-wheel's falling into holes or

dead furrows, or when the team jerks ahead, speeding the entire mechanism very suddenly and putting a terrific strain on chains, bearings, castings and reel. With the engine, the power

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### CHICKENS AND MILK

According to tests and observations of specialists of the Storrs Agricultural Experiment Station, the feeding of milk to young chicks has a most favorable influence on the growth and on the lessening of mortality of the chicks. It tends to prevent mortality from all causes, and if fed soon enough and for a sufficiently long period, greatly reduces the death-rate caused by bacillary white diarrhea.

Sweet and sour milk are apparently of equal value in their relation to growth and mortality. Furthermore, different degrees of souring do not alter the results of milk feeding. The value of milk as a food for chicks does not depend upon any acids that may be present, nor upon any particular types of micro-organisms; but upon one or more of the natural constituents of the milk.

When milk is supplied freely to chicks, it becomes all the more important that they have abundant exercise. This applies more particularly to early hatched chicks that are brooded wholly or for the most part indoors. The feeding of sweet or sour milk has in no instance been found to be in any way injurious to the chicks employed in the numerous experiments made by the Storrs Station. If the milk is clean, and not too old, none but the most favorable results should accompany its use as a food for chicks. There is no preference in the choice of sweet or of sour milk, except from the standpoint of convenience. The use of the one or the other should be determined by the circumstances.

### COST OF PRODUCING FIELD CROPS

In a report received recently by the Department of Agriculture from the New Jersey Station, figures are given of costs of production of various field crops derived from carefully kept records on the station farms.

Records of a 9-acre field of alfalfa show the average cost of producing hay per acre to have been \$19.17, the average cost per ton, \$5.50, and the

average yield per acre, 3.48 tons. Similar items of a 10-acre timothy field are given as \$34.05, \$8.58, and 2.98 tons; of a fourteen and one-half-acre field of oats and pea hay, \$15.80, \$6.83, and 1.66 tons; of a 19-acre field of alfalfa, \$12.56, \$5.03, and 2.3 tons; of a 10-acre field of oat and pea hay, \$14.50 \$9.67, and 1.5 tons; of a 6-acre field of silage, \$28.88, \$3.32, and 8.68 tons; and of a 24-acre field of silage corn, \$29.36, \$3.73, and 7.87 tons.

The total cost of seeding a fourteen and one-half-acre field of timothy and clover is given as \$23.10 per acre. The total labor cost of producing rye and vetch on 6 acres is given as \$98.93 and the total income as \$296.50. The average cost per acre of a three and one-half acre field of rye straw and soy beans is given as \$6.15, the cost per ton as \$3.40, and the yield as 1.8 tons.

The total value of the crop from a 13-acre field of soy beans for seed is

given as \$424 and the cost of production as \$207.32. The total cost of seeding a 10-acre field of alfalfa is given as \$168.42.

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# North Dakota Farmer

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**Vol. 16 JUNE, 1915 No. 12**

Boys and girls are the best of all crops and should be studied as thoroughly as other things.

Too much of the co-operation between the land owner and tenant is for the purpose of soil robbery.

A good seed bed is a sort of insurance, making a profitable crop possible even when weather conditions are not favorable.

The profits of the farm should be jointly shared by the household whenever any portion of it is available for improvement purposes.

Make home pleasant and the children will endeavor to make similar homes for themselves when they begin the serious work of life.

Insure against drought by cultivating after rain. Better cultivate now than complain later. We have had no greater rainfall in years.

The auto motor has come to stay, and the farmer that can afford one can get about a good deal, in short order, without jading his team.

Country life is the best life that the commonwealth affords. For every argument against country life two better arguments can be made in its favor.

The natural possibilities for making beautiful homes in North Dakota are not excelled in any state in the northwest. It only remains for the farmers of the commonwealth to make good use of their unexampled opportunities.

It will not be long before the roads of the prairie are put into horrible shape by those who know little about road work. To what extent has the tax on automobiles improved the roads of your county?

Minnesota is fast following in the footsteps of her young sister state. Nearly every county that has voted has voted dry. Moorhead will cease to be a synonym of boozedom, and whiskey will become as scarce as patent medicine ads in the N. D. F.

A farmer was heard to remark, "I've watched the tractors for several seasons, but I never yet have seen a little tractor following its mother tractor, nor have I noticed that the soil was a bit richer after a tractor has passed over it. When I do, I'm for one myself."

The vexed question of capital and labor is entering into rural business and must be worked out ultimately as in the manufactories. This will demand the best brains and the best business talent of the country to safeguard the bread of the people and the prosperity of the commonwealth.

When the fellows that live off the farmers begin to manage his productive functions as well as to take charge of the distribution of his farm products, it may not be out of place to become suspicious, bad as suspicion is. Farmers are abundantly able to manage their own affairs and will do so just as soon as they learn to do team work, and Necessity—that benevolent tyrant of the ages—will drive them to it in the near future.

The festive dandelion is rapidly taking possession of meadows and roadsides in the northern part of the state and in eastern Manitoba. This plant does not seem satisfied longer to be restricted within the narrow limits of city lots, but like other evils becomes aggressive in proportion to the tolerance that is given to it. Who knows but that the little yellow peril will in time become a real scourge to the country?

It is to be hoped that tenantry will not be encouraged in North Dakota. To hold land for speculative purposes is bad enough but to hold it for the purpose of renting it for the profit there may be in it, simply means a gradual decline of country schools, churches and rural social interests. The profits that accrue from a declining agriculture, in a state depending so exclusively upon agriculture, are not

inclined to make the land owners proud or happy.

Bonanza farming on a commercial basis by private ownership or by companies on the one hand and a transient tenantry on the other, are not conducive to the maintenance of a satisfactory civilization on the farms of America. What the state needs to encourage is farm ownership by the many rather than by the few and farm ownership rather than farm tenantry under any circumstances. We must retain on the farm, as farmers, the best type of American manhood and womanhood.

Farmers of North Dakota have no just grounds for complaint against any laws that are on the statute books, or because laws that should be on the statute books are not there. Having an overwhelming majority of the votes that decide the policy of the state government, as well as who shall make and administer the laws, farmers cannot shift the cause of their discontent to others. They are themselves to blame for the evils that exist—if any exist.

Every farmer in the state should plant not less than three per cent of his land in forest trees. The ground should be plowed about fifteen inches deep and bare cultivated the previous year. If even half the farmers of the state were to do this, it would prove a blessing to future generations beyond anything in the way of bank accounts that each individual may be able to secure. North Dakota needs more of "God's first Temples," and the man that plants them here may enjoy what they symbolize hereafter.

The Chief Seed Inspector of Ottawa, Canada, examined 978 samples of wheat, oats and barley that were grown by the farmers of Canada. While not more than three or four varieties of each of these grains can be grown to best advantage, the folly of Canadian farmers experimenting with so many new and untried varieties is obvious. One bad result is that so many of the varieties are absolutely worthless for that latitude, and weeds are encouraged to grow and pollute the land. Another bad feature is the mixing of grains until the pure varieties are practically run out.

North Dakota farmers are prone to experiment with new kinds of grain, often to their detriment. If all farmers were to confine their cultivation to two or three of the tested out and thoroughly reliable varieties the profits of grain growing would increase ten or fifteen per cent.



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**Delicious**

NORTH  
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**Sheyenne Valley Canning Co.**

**Lisbon, N. D.**



# Livestock Department

## FARM AND STOCK NOTES N. J. Shepherd

Too heavy loads make balky horses. A dairy cow in any way frightened will not do her best.

With growing colts liberal feeding and good care produce a liberal return.

Reject a horse with flat sides. They will not do work or look well.

Well drained dirt floors are the best to use in the stables for colts.

With hogs the profitable line of production is to maintain good health with early maturity.

With many products how to sell is a matter of equal importance with how to produce.

The breeding of a horse is important, but the proper development and care is just as important.

One of the great dangers of incestuous breeding is its resulting in feeble constitutions.

In breeding, defects are peculiarly persistent and are more easily stamped on the next generation than good qualities.

All things being equal the large animal consumes exactly in proportion to size.

The value of any kind of farm stock is very largely determined by its feeding the first year of its life.

A short legged, short bodied sheep is often heavier and will produce more wool than one that looks to be twice as large.

It is the continued persistent and regular feeding to the full capacity of the animal without over-reaching that meets with success.

A sow with a weak constitution will produce pigs with a like defect and a slow maturing sow will be the mother of equally slow maturing pigs.

Other things being equal that man is going to make the most money whose products are most nearly what the market calls for.

With the wool paying all expenses, whatever growth the sheep are making, or whatever lambs they are raising may be counted as profit.

It is not the quantity of land one has, but the way it is used and handled that counts most for success on the farm.

At no time in the life of the animal is the influence of liberal or of scant feeding so great as when the animal is young.

Reject a horse with forelegs not straight; they will not stand wear. Stand behind the horse as he walks away from you and you will be able to notice these defects if they exist.

An important factor in producing cheap pork is to get the hog to market in the shortest time possible; and the way to do this is to get the pigs to eating well while still with the sow, so that they will lose no flesh or suffer no set back in being weaned.

Swine alone are bred exclusively for their flesh; therefore, it is self evident that the greatest number of pounds you can get them to carry in the least time the greater saving of food and consequently the greater profit for the feeder.

As a rule with pigs the later the spring pigs come, the less care is required to start them, but the opposite is true of fall litters. The later in the season they are farrowed the more care is needed to start them into the winter in a good condition.

Everything else being equal the preference is always in favor of the handsome, stylish, good looking horses. At the same time, it matters not how stylish and shapely a horse may be if he lacks action or strength or endurance, his value is curtailed in consequence.

Putting a fine lot of fleeces on the market once a year is by no means incompatible with at the same time having a prime lot of mutton ready to help out the income. And when getting up a bunch of choice mutton it is well to keep in mind that the coat they carry can as easily be made valuable as worthless.

The early maturity of the draft horse is an argument and important factor in his favor. At two years of age he will do his share of work on a farm, and at three and four can readily be marketed. The grade draft mare, bred at two will have a colt at three. They are all the better for doing the farm work and will raise the larger heavier draft horses so much in demand.

## PERCHERON SOCIETY OF AMERICA

At a recent meeting of the Board of Directors of the Percheron Society of America the following business of public interest was transacted:

## CLASSIFIED ADS.

### One Cent a Word

Small advertisements will be classified under appropriate headings at the low price of one cent a word for each insertion. Cash must accompany all orders. Each initial or number must count as one word. TRY IT HERE.

## LIVE STOCK

## DUROC JERSEY SPRING PIGS

Buy your new stock now while the price and express will be low. First class stock from prize winning sire at reasonable prices. Unrelated pairs and trios a specialty. New stock for old customers.

**Roy W. Jacobs, : Wadena, Minn.**

**FOR SALE:** Chester White Gilts Bred to Dakota's Pride, a son of Sweepstakes No. 28006, the hog that weighed 1260 pounds. Also Pigs at weaning time.

**THE PRATT FARM  
Geo. A. Pratt, Prop. : Cooperstown, N. D.**

**Minnesota Highest A. R. Record Guernseys**  
Twenty cows average 514 pounds fat, equal to over 615 pounds of butter

**World's Greatest Herd of A. R. Red Polls**  
Whole Herd averages 422 pounds fat, equal to 506 pounds of butter  
Bulls for Breeding Clubs to Suit All Pocketbooks  
**Jean Du Luth Farms, Inc., Duluth, Minn.**  
Geo. P. Grout, Managing Owner

**Red Polled.** If you are looking for choice bulls all ages, write, **Howard H. Capener, Erie, N. D.**

**Pure bred Percheron Horses and Shorthorn Cattle Stock for sale.** Nels Knutson & Sons, R. 1, Fullerton, N. D.

**THE PLEASANT GROVE FARM** at Holmes, Grand Forks County, sells registered Shropshire and Oxford Rams and Ewes; also Polled Durham Bull Calves. **R. E. Strutz, Bismarck, North Dakota.**

**FOR SALE.** Two Holstein Bull Calves, nicely marked and fine animals; Ages three and four months. Sired by my herd Bull Sir Albino Beets Segis No. 116611. **Wm. Pewe, McHenry, North Dakota, R. R. 1.**

**HIGH GRADE GUERNSEY CALVES**  
From our dairy herd, either sex, for sale. Prices ranging from \$10.00 up, according to age.

**RIVERVIEW FARM**  
Stern Bros., Prop. Frank Lamb, Mgr.  
**R. R. 2, Fargo, North Dakota**

**Meadowlawn Farm.** The largest breeders in North Dakota. Percheron Horses, Shorthorn Cattle, and Berkshire Hogs. Where quality counts. Address: **A. H. WHITE, Kramer, N. D.**

**Choice Poland China Hogs** always on hand. Bred Gilts all sold. Register now for spring pigs, either sex; prices right. **Thos. Forbes, Petersburg, N. D.**

**DUROC JERSEY March Pigs,** high quality breeding. Buff Orpington Chickens, Cheap.

**G. H. JOHNSON  
Rt. 2 : : Evansville, Minn.**

**For Large Yorkshires** of either sex and bred gilts, address **L. A. Knoke, Badger Den Stock Farm, Willow City, N. D.**

## ENVILLA STOCK FARM

Envilla Stock Farm, Cogswell, N. D. will quote you special prices on Angus Cattle, Shetland Ponies, Duroc Jersey Hogs, Wolf Hounds, Collies, Rat Dogs and other breeds, Angora Cats. All varieties of chickens; turkeys, geese, ducks, guineas, pheasants, rabbits, ferrets. Pets. Live Foxes. Skunks, Mink and Badgers.

## Bixby's Red Polls

of A. R. Breeding

My herd bull J. D. Merryweather No. 24396 is from 1400-pound cows and is getting the size in my herd. His dam is a full sister to the World's Champion Two-Year-Old heifer. His first three dams average close to 400 pounds butterfat in one year.

**J. S. BIXBY, : : LISBON, N. DAK.**



The use of a single judge on Percheron horses at the Panama Pacific Exposition was recommended. C. F. Curtiss, Ames, Iowa; William Bell, Wooster, Ohio; James F. Meltcher, Elgin, Illinois; J. L. DeLancey, Northfield, Minnesota; and W. E. Prichard, Ottawa, Illinois, were recommended to the Panama Pacific Exposition as judges of Percheron horses.

The classification provided by the Percheron Society of America for Percheron horses at various state fairs and expositions was revised. Some of the smaller fairs were dropped from the list and the cash prizes, which have not been considerable, were eliminated. Sterling silver medals will be awarded to all first prize winners and bronze medals will be awarded to second prize winners.

A resolution favoring the reimbursement of breeders of livestock for pure bred breeding animals destroyed in any public welfare campaign against animal plagues was adopted. This resolution favors the reimbursement of breeders on the basis of the breeding value of the animals and has particular application to foot and mouth disease, rinderpest and surra and other plagues of similar character. Copies of this resolution have been forwarded to the members of the Committee on Agriculture in the United States Senate.

### MILK PRODUCTION

In connection with investigations carried out on a number of farms in Yorkshire, England, it was found that the high yield and low fat content and low yield and high fat content do not invariably go together, yet in the case of cow yielding under 400 gallons of milk, the milk contained an average percentage of 3.92 of fat. The percentage decreased with an increased milk production, and the milk of cows yielding over 1,000 gallons contained only 3.48 per cent fat.

The importance of milking at regular intervals was shown by the fact that of the 18 samples containing less than 3 per cent fat in the morning milk, no fewer than 13 were contributed by a farm where the intervals

were very unequal. It was observed that while the lengthening of the night interval tends to raise the yield of milk and lower the percentage of fat in the morning milking as compared with the evening milking, it has little effect on the total weight of fat given at each milking.

### GROWING PIGS THRU THE SUMMER

G. E. Morton, Colorado Agricultural College, Fort Collins, Colo.

Sows and their litters are now upon alfalfa pasture. Some growers claim that they can produce pork profitably upon alfalfa without the use of grain. It is possible that this can be done, but I have yet to see pigs attain satisfactory weight at six months of age which have had nothing but alfalfa pasture. I have purchased such pigs in the fall for feeding purposes that did not weigh over sixty-

**DUROC JERSEYS** Glts out of such sows as Golden Model Queen 6th, Model Beauty and other sows as well bred as could be bought at the sales last winter. Write H. N. HOYME, Jasper, Minn.

**HOLSTEIN** Cows, Heifers and Young Bulls. All ages. Write Envilla Stock Farm, Cogswell, North Dakota.

### MAPLE LODGE LARGE YORK-SHIRE

March and May pigs, \$10 up, also a few fall pigs, stock of good type and strong bone. Bourbon Red Turkeys, \$2.50, and up. Partridge Wyandottes, (winter layers) stock and eggs, \$1.50 Edward Klebaum, Egeland, N. D.

**Wanted Men** For U. S. Meat Inspectors; U. S. Quarantine Service; U. S. Field Service; U. S. Army Veterinarians, etc. Graduates are eligible to examinations for such positions. Fine salaries. Great opportunities for Successful Practice. Our College under U. S. Government Supervision. Established 22 years. Thoroughly equipped. Faculty of 16 instructors. Write for particulars. **INDIANA VETERINARY COLLEGE** 838 E. Market St. Indianapolis, Indiana

### ST. PAUL UNION STOCKYARDS COMPANY, SOUTH ST. PAUL, MINN.

#### Comparison of Receipts and Shipments of Livestock for May, 1915

	Receipts						
	Railroads	Cattle	Calves	Hogs	Sheep	Horses	Total Cars
C. R. I. & P.	876	231	914	.....	1	51	
C. G. W.....	1578	702	5181	2592	18	169	
C. M. & St. P.	5364	1343	27136	2674	192	633	
M. & St. L....	2428	1182	14323	482	2	318	
C., St. P., M. & O.	4048	1644	26739	317	12	564	
C. B. & Q.....	56	78	792	137	.....	13	
M., St. P. & S. S. M.	4304	2406	28518	412	217	584	
Gt. Nor.....	7965	4166	50785	1825	239	1041	
Nor. Pac.....	4216	1219	25392	202	214	479	
St. P. B. & T....	.....	.....	.....	.....	.....	.....	
Driven In.....	1223	140	1963	131	4	.....	
Total.....	32058	13111	181743	8772	899	3852	
Inc. over 1914	6774	71	52781	.....	459	822	
Decrease.....	.....	.....	.....	10991	.....	.....	
Jan. 1 to date	172877	49270	1002098	177440	2232	20587	
Inc. over 1914	28165	.....	381999	.....	.....	4893	
Decrease.....	.....	1520	.....	17596	55	.....	
Av. Weights....	784	198	212	88	.....	.....	
	Disposition						
	Railroads	Cattle	Calves	Hogs	Sheep	Horses	Total Cars
C. R. I. & P.	899	229	.....	.....	19	32	
C. G. W.....	1763	81	.....	.....	109	67	
C. M. & St. P.	6537	328	28065	1698	97	494	
M. & St. L....	438	4	254	.....	.....	18	
C., St. P., M. & O.	4490	591	10045	.....	5	229	
C. B. & Q.....	1103	51	14577	1978	369	203	
M., St. P. & S. S. M.	2401	171	150	.....	1	74	
Gt. Nor.....	1496	464	148	199	33	59	
Nor. Pac.....	2010	299	.....	.....	8	69	
St. P. B. & T. ...	29	2	.....	.....	1	2	
Driven Out....	538	149	757	107	47	.....	
Total Shipments	21704	2369	53996	3982	689	1247	
Inc. over 1914	1329	.....	23235	.....	263	145	
Decrease.....	.....	984	.....	15693	.....	.....	
Jan. 1 to date	105348	6639	349240	151387	3135	3451	
Inc. over 1914	12682	.....	181767	10764	840	.....	
Decrease.....	.....	5414	.....	.....	.....	2077	
Consumed in So. St.	.....	.....	.....	.....	.....	.....	
Paul this month	12533	7897	126954	8037	.....	.....	

**For Sale** Choice Big China Glts, Sired by Mouws Jumbo 3rd and Giant Rupert, bred to Dignan's Chief and Miller's Big Chief for March and April farrow. I am booking orders for spring pigs to be shipped at weaning time. Pedigree furnished! Call on or Write J. A. Dignan Waverly, : : : Minn.



five to eighty pounds at six months of age. A pig that has been fed all that it will eat from birth should weigh 200 to 225 pounds at that age. The pig that does not weigh over 75 to 100 pounds in the fall has been

**FOR SALE.** Short Horn Bull, 18 months old, Roan; weight about 1000 pounds. Good breeding. J. M. Crawford, Wahpeton, N. D., R. 3.

### MISCELLANEOUS

**WANTED.** Live Foxes, Skunks, Mink and Badgers, any time. Envilla Stock Farm, Cogswell, N. D.

**FOR SALE:** Some fine Collie Puppies. Price \$8.00 F. O. B. The Great Northern or Northern Pacific. R. F. Smith, Tower City, N. Dak.

**POTATOES** go 300 bushels to acre **CORN** 60 bushels to acre in HUBBARD COUNTY. Rich clover and dairying lands, near beautiful lakes, good towns, schools, roads, at very low prices. Write today to Miller Bros. Land Co., Park Rapids, Minn.

SEVERAL OF YOUR NEIGHBORS will buy an automobile this season. We want to know who they are. Write us today and ask how you can make \$10. It is easy. You should make more, too, using but a few minutes of your time. Address: RENWICK Fisher Auto Co., 1303 Nicollet Ave., Minneapolis.

**WANTED** to hear from owner of good farm for sale. Send cash price and description. D. F. BUSH, Minneapolis, Minn.

**BINDER TWINE.** 7 3/4 cash, also note terms. Request delivered carlot quotations. Plincy E. Cooper, Sales manager, 307 Flour Exchange, Minneapolis, Minn.

**BARGAINS! BARGAINS!** Send for free magazine. 1200 bargains. Farm lands, business chances, any kind, anywhere. Our services free to buyers. Western Sales Agency, Minneapolis, Minn.

**FOR SALE.** Medium Red Clover and Primost Flax.

J. M. Crawford, R. 3, Wahpeton, N. D.


**Agents Wanted** to sell our beautiful Art Pictures. They sell everywhere, in farm or city homes, at 25 cents up. Big profits. Beautiful sample, (size 16x20) and agent's terms, only 15 cents, post paid. Order at once and be the first in your territory. The Art Shop, Dept. A, Hendrum, Minn.

## Auctioneering

COL. H. A. KINNEY

Real Estate and Registered Stock Specialist—22 years experience. Write for dates and terms. Breeder and shipper of Chester White hogs. Larger blood lines for 1915. Milnor, NORTH DAKOTA

**DAD'S ELECTRIC LANTERN**  
TRADE MARK  
300-FT. of POWERFUL ILLUMINATING BRILLIANCE  
IT'S A DANDY-HANDY LANTERN—ASK TO SEE IT—FIRELESS—"EVER-READY"  
PRACTICAL FOR ALL LANTERN USES  
LIGHTS WITH ANY 6-INCH SIZE STANDARD DRY CELL BATTERY  
AT ALL DEALERS EVERYWHERE—TRY IT—BUY IT  
HYTTE'S FACTORIES, 506 1/2 LITE ST. INDIANAPOLIS, U.S.A.



PRICE \$2 DELIVERED

### BOOK ON DOG DISEASES

And How to Feed

Mailed free to any address by the Author

H. CLAY GLOVER, V. S.  
118 West 31st Street, New York

stunted, and the resulting gains will not be satisfactory when the pig is put upon feed for finishing out. The frame growth will have stopped to a certain extent, and, while they will lay out fat, they will not make the gain per day that thrifty pigs will make.

The experience of several states shows that the most economical ration, from the standpoint of return for money expended, is grain to the extent of one to two per cent of the live weight of the pigs, the pigs meanwhile running on alfalfa pasture.

The only conditions under which this method of handling might not be profitable would be when the market was so extremely low that there would be no chance of getting out a profit where any grain was fed. If indications pointed to a stronger market in a few months, then the pigs could be run on alfalfa alone without grain in order to tide them over the period of low market, but with reasonable market conditions, it pays to feed some grain with alfalfa pasture.

It is best not to pasture too many hogs to the acre, and best not to allow them upon it when wet, as they tramp and root the alfalfa and kill a good many of the plants. Alfalfa pasture that is handled properly will maintain its stand for four or five years with hogs upon it, which is a sufficiently long period.

### A MILKING SHORT HORN CENTER

From Breeders' Gazette of May 6.

The farmers of western Benson County, North Dakota are raising the milking shorthorns. They are organized as the United Stock Breeders' Association of Esmond. The plan of organization is that when eight farmers in a locality club together and put in \$20 a piece the Association places a milking shorthorn sire in the club. At the end of each two year period the sires are exchanged. A service fee of one dollar is charged members; non-members, three dollars. The one that cares for the bull receives \$30 a year. The Association is now composed of 20 such clubs, and new ones are being formed about as fast as the sires can be secured.

A good deal of care has been used in the securing the sires. None are allowed in the circuit that have not good milk records in their immediate ancestry. The officers of the circuit have been fortunate in finding exceptionally good sires. In fact it is doubtful if twenty such fine sires of the milking shorthorn can be found in

any one other locality in the United States. And when one remembers that each sire is used in several herds it becomes apparent that the progeny from each one will be large.

Several of the farmers have a number of pure bred milking shorthorn cows of good breeding.

Nearly all of the farmers in the western part of Benson County are now raising the milking shorthorn, which means that in a few years this section will be the milking shorthorn center of the Northwest, if not of the United States.

The farmers of North Dakota seem almost unanimous in wanting the milking shorthorn and the demand for them is quite persistent all over the Northwest. These Benson County farmers have been longheaded enough to anticipate this demand. They got together and bought up some of the best stock of this breed before the big demand started; in this way they secured them for very reasonable prices. Now they are finding that they can breed better stock than they can buy. It means much to North Dakota and the Northwest to have so many of these desirable cattle being bred in its own territory.

### THE VALUE OF FEED AND CARE

The effect of feed and care on the dairy cow was well brought out at the New Salem, North Dakota dairy school. The four year record of 12 cows was given. The butter fat production averaged 116 pounds the first year, 194 the second, 214 the 3rd and in 1913, 239 pounds. The production was more than doubled in the four years. The cows were three to six years old when the records were started. The milk was weighed from each milking and tested each month. This very emphatically brings out the fact that to secure good production the cow alone cannot do it—she must have the feed and the care.

## To Exchange For North Dakota Farm

Eighty acres of beautiful waterfront on famous Puget Sound, State of Washington. A mile of finest shore front. Midway between Tacoma and Olympia. View of all the Mountains. Good steamboat service. Unsurpassed climate. Good land. Ten acres cleared. Young orchard of 650 fruit trees. Large modern poultry buildings. Small, but substantial house of five rooms, etc., new barn 50x60 with shed extension, smaller buildings, etc. Delightful place to live. No finer investment property. Property recently appraised at \$15,000. There is \$4,000 borrowed on it. Property will soon be ready to cut up into waterfront lots. What have you to offer?

Address: Washington, c. o. North Dakota Farmer, Lisbon, North Dakota,





## Poultry Department



### THE BROODY HEN AND HER CARE

The broody hen is still with us, and where it is not desirable to set them, they should be broken-up of the broody fever as gently as possible. For years back we have contended that nothing is gained in egg-production by breaking-up broodies. Besides we have held that broodiness is nature's plan for giving the heavy layer a needed rest.

Broodiness follows steady laying, and as a rule the hen's system is pretty well drained by her efforts in manufacturing eggs.

In 1896 we reported a number of experiments in breaking up broodies. We took two hens (of four that became broody at once) and broke them up, and the other two were allowed to sit. The broken-up hens were given a separate house and run, and fed the same as the rest of the fowls. While the two hens were setting, the two broken-up ones had the advantage of getting somewhat of a start in eggs; but when the former ones again began to lay there was a regular "one egg a day" from each of them for some time. It was not long before they gained on the "broken-up" hens—in one experiment the score stood two hundred and forty eggs for the two hens that were allowed to sit, and one hundred and ninety-eight for the two hens broken up.

In another experiment both lots came out even in egg production, with the credit of two broods of chicks to each of the two hens allowed to sit.

Our report, made at that time, says that another thing we noticed was that in the eggs we received from the hens allowed to brood, we had less thin-shelled and more uniform eggs in size and shape. The reason is plain: does she not in her weeks of rest store up material and strengthen her organs? If not, then why does a hen with a brood, as a rule, lay every day for a while after she again starts? Where does she secure this material?

It was rather a coincidence that just after we completed our experiments the editor of the Iowa Home-stead should give a similar experience. Here is the report:

"Do you believe that a hen will lay more eggs during the year if she is not allowed to incubate? We do not, and it is mere theory with us. Ordinarily one might think that the hen

would start right in laying the moment she was ordered off her broody nest, but she won't. She will loaf about a week or two, and keep growling and fussing, and fighting with everything that comes in contact with her, and if you pen her alone she will keep from laying all the longer.

"Now the way we got to be so smart on this subject was by making an experiment, and this is what we found out:

"A dozen of our best layers became broody at the same time. Half of them we penned in separate coops to break up, and the other half we set, and by the third week they had all started again. Of course those hens sitting were not laying. All the time they were busy hatching the eggs were beginning to count up for the six we would not allow to sit.

"In order that we could make no mistake in our experiment we kept the six hens in a separate flock. At the end of three weeks we had six broods of chicks, and in two weeks after that the hens with young began to drop eggs. Hardly had the latter begun laying when two of the hens we broke up again became broody. It was nothing but fighting those first six.

"At the end of the year we found that the six hens not allowed to sit had given us several more eggs than the six hens that we set, while the latter raised for us forty-two fine chickens. Now which beat? The point, in our way of thinking is this: That nature gives the instinct to become broody as much for a rest as for anything else, and that to keep the hens from this requirement of nature is but to weaken them physically, so that they cannot lay with that vigor they did before. We look upon it as profitable to set all hens, at all times of the year, for two reasons:

"First, the rest gives stamina to the stock.

"Second, even at a low market price the chicks hatched and raised will be worth at least twice what the eggs would bring that the hens, if forced, lay at that time of the year.

"Now these who may doubt the wisdom of this 'thought by the poultry editor' should try the experiment. We doubted, it, too, at first, and kept on fighting a pitched battle with the poor hens with good intentions. We won't do so again—and if the readers will give the matter a trial they will

### BEITH'S WHITE WYANDOTES

Winners at Crookston, St. Paul, Minneapolis and Fargo, N. D. Our birds are bred to lay as well as they are bred to win.

J. C. BEITH

Wheatland, - North Dakota

EGGS FOR HATCHING from choice Silver Lace Wyandottes. \$1.50 for 15 eggs. Mrs. Thomas Brady, Lansford, N. D.

### WHITE HOLLAND TURKEYS & BARRED PLYMOUTH ROCKS

Eggs for hatching from choice matings. Turkey eggs \$3.50 for nine eggs. Rock eggs, pen No. 1, \$2.50 for fifteen eggs. Pen No. 2, \$1.50. Express or parcel post prepaid. Not guaranteed by parcel post.

ROY W. JACOBS, - - WADENA, MINN.

BOURBON RED PURE BRED TURKEY TOMS, good ones, \$3.50 each. Toulouse Geese, \$4.00 per pair. Mrs. F. Spriggs, Maddock, N. D.

Breed White Wyandottes. Eggs for sale from vigorous trap-nested stock. My birds win in show room wherever exhibited. M. C. James, Valley City, N. D.

For Sale. Nice Buff Orpington Cockerels at \$1 each. Mrs. John Alexander, Edmunds, N. D.

White Holland Turkeys, Toulouse Geese and Barred Rock Cockerels. Gustav Larson : : Northwood, N. D.

S. & R. C. White Leghorns. Blue Ribbon and Silver Cup Winners. Cockerels, \$1.50; Eggs, \$1 per 15; \$4 per 100. H. H. Hirschy, Lisbon, N. D.

S. C. R. I. Reds. High scoring cockerels. Eggs for hatching in season. Henry Mertens, Grary, N. D.

White Holland Turkeys, R. C. R. I. Reds. Stock and Eggs in season. Maurice H. Bliss, Geneseo, N. D.

EGGS FOR HATCHING, satisfaction guaranteed, Thoroughbred wide open laced, big utility, winter laying Silver Laced Wyandottes, bred for business and Indian Runner Ducks. 15 eggs \$1.50; 30 \$2.75; 50 \$4.00. Anthony Elm, : : Lansford, N. D.

EGGS. Thoroughbred White Leghorns, Ferris strain eggs, 15 for \$1.00; 100 for \$5.00 write Geo. Freeman, - - - Pilger, Nebr.

### White and Columbia Wyandottes,

Light Brahmas, and S. C. White Leghorns Over 30 years a breeder. Stock and eggs for sale. MICHAEL K. BOYER, Box 27, Hamonton, New Jersey.

PURE BRED S. C. W. Leghorns. Eggs for Hatching, \$1.00 per 15; \$4.00 per 100. or \$7.00 per 200. T. I. Martinson, Christine, N. Dak.

FOR SALE: Rose Comb Red Eggs for sale at \$1.00 per 15 eggs. Mrs. Heidlebaugh, Pleasant Lake, N. Dak.

### ROSE COMB RHODE ISLAND REDS

Hatching eggs from my hardy northern-grown winter egg laying strain of Rose Comb Reds, \$1. winter egg laying strain of Rose Comb Reds, \$1.50 per 15, \$3.50 per 50 or \$5.00 per 100. Day-old chicks at 15 cents each in lots up to 100. J. O. Berg, . . . Hendrum, Minn.

TOULOUSE GESE EGGS: 6 for \$1.00. Mrs. Frank Stoner, . . Lansford, N. Dak

## BARRED ROCKS

Dakota Strain. Bred to Lay and Win

Order eggs for hatching now. June hatched birds make the strongest chicks. Pens broken up after June 25.

PERCY BEALS, : FARGO, N. D.

## Quality White Rocks

We have as good as grow. You start right with our stock or eggs. Hatching Eggs now \$1 per setting; \$3 per 50; \$5 per 100. Write today. O. A. Barton, Valley City, N. D.



be with us in the belief and practice."

But it is not always feasible to take the Homestead's poultry editor's advice to set every broody hen, as many poultrymen have not enough spare territory to raise a large number of chicks. But where this can be done, it certainly can be turned into profit, to say nothing about the stamina this rest imparts to the stock.

On the farm of the writer we allow hens to set the entire summer. The product of the very late hatches we use as market stock at a good profit.

Before we began the experiments referred to above, we would, after May, break up all the broodies, and then after we installed incubators we did not allow any hen to set. The result was a constant fight. Some hens would want to set four or five times during the year. But after we adopted the method of allowing all to sit (excepting in mid-summer) we have not had one hen that became broody more than twice in a season.

When we did not have the eggs to spare, or when for some reason we could not accommodate new chicks, we placed the hen in a barrel nest and allowed her a chance of sitting several weeks on a china egg. In every case she would come off in good, physical shape.

I. K. Felch once said that in his experience he found stronger fowls, more rugged chicks, better eggs, and equally as good results in laying when the hens that became broody were allowed to sit. He said: "They need the rest which nature has provided for them."

### EGG FARMING

The egg farmer must be honest.

Upon his honesty depends his success.

Buyers of eggs must have faith, and this faith must not be shaken.

One bad egg in the lot will not only be the loss of faith, but the loss of a valuable customer.

Eggs should be marketed at least once a week. Twice a week would be far better.

The honest egg farmer is not afraid to date his eggs.

The man with the reputation of selling only strictly fresh eggs has no trouble to find customers. They come after him.

The wise egg farmer grades his eggs according to color and size, and he gets a little more for his trouble.

The man who by means of a pickle or some preservative, puts away his summer eggs to sell in winter at advance prices, is dishonest, and his customers quickly detect his trick.

Food flavors the egg, and the wise poulterer knowing this feeds nothing but the purest of grains, meats and vegetables. Nothing is allowed the hens that will taint the flavor."

"Guaranteed eggs" are those laid by fowls judiciously fed on the purest of food, kept in the cleanest of houses, and always put on the market in a fresh condition.

"Store eggs" are a lottery. You may get a prize, but it is more likely that you will draw blanks.

The farmer, otherwise, honest, is often tempted to put the contents of a "hidden nest" in the fresh egg basket—and his religious views are doubted.

### FEEDING YOUNG CHICKS

Now that the young chicks are beginning to break thru the shells and cry for food, the question of what is the best food for young chicks and how much they should be fed, becomes an important one, says the Experiment Station.

The most difficult period in the feeding of a young chick is the first two weeks after hatching. This is especially true with brooder chicks that are raised in small quarters and which do not get the free run that chicks following a hen are able to secure.

Three principles must be observed if young chicks are to be successfully raised. First, they must not be fed for approximately 48 hours after hatching. Second, they must be fed some form of grit as their first feed, or, at least, along with the first feed. Third, they must be fed small amounts of feed and this must be fed often.

Many different formulas have been proposed by different poultrymen setting feeds for young chicks. One that has given good satisfaction at the North Dakota Experiment Station is as follows: For the first 12 hours the chicks are in the brooder and a small amount of finely crushed oyster shell is put before them as well. Water, of course, is put before the chicks as soon as they are put in the brooder. The first feeding of the young chicks or the feeding for the first day is three feeds of oatmeal, fed by sprinkling it on the floor of the brooder. The second day a mixture composed of twenty parts fine cracked corn, twenty parts cracked wheat and five parts oatmeal is used. This is practically what most of the commercial chick feeds are composed of, tho the commercial feeds usually have some grass seeds, principally

millet, mixed with the corn and wheat. This grain mixture should be fed, at least, four times, preferably five times a day for the first week, feeding only what feed the young chicks will clean up completely between each feeding period.

If the eggs have been candled at the close of seven days and the non-fertile eggs have been boiled, they can be fed quite satisfactorily to the young chicks, feeding one small feed of boiled eggs per day for the first week or ten days.

At the end of the first week is a good time to begin feeding dry bran in a hopper. Chicks can best be started to feed from the hopper by putting the hopper containing feed in the brooder and omitting the noon feeding of grain.

By the time the chicks are three weeks old they can usually be removed to the colony house without heat in the building and from this time on can be quite successively fed by using a hopper in which a mixture of about 10 parts bran, 5 parts corn meal, 5 parts finely ground oats and one part meat meal is contained. This mixture should be before the chicks in the hopper at all times.

In addition to this a grain mixture composed of twenty parts cracked corn, twenty parts cracked wheat and if available 5 parts low grade oatmeal may be fed in litter or on the ground.

It will be highly beneficial to growing chicks from the time they are 3 weeks old if they have the run of a grass pasture or for chicks that are hatched early in the spring, oats should be sprouted for them and a small amount of this fed each day so that they get some green feed. Green feed is as beneficial to growing chicks as it is to larger farm animals.

The system of feeding outlined above is especially suited to the production of chicks that are to be used as breeders. Where it is profitable to cater to a broiler or roaster market, the use of wet mash and the use of sour milk or buttermilk will be found advisable and profitable.

Geese thrive on the same food as that given other poultry. Grass is their natural diet, but during the winter when grass is a scarce article, they do wonderfully well on a mash in which bran and meat scraps are well represented, with whole grains—corn, wheat and oats—at night. A pair of geese will produce an average of a dozen goslings each year, and these find ready sale around the holidays.



## School and Home



Miss Ura Leader,  
Ruraldale, N. D.  
Dear Miss Leader:  
In my last letter, I spoke briefly of Conveniences in the Farm Home and their relation to the farm. It is well to look at this matter from two

standpoints—those which are money and labor savers; and those which add materially to the comforts and pleasures of life.

All the talk about the farmer spending money for binders, mowers, etc., and how these expenditures should be duplicated in the house is pure nonsense. Let's get a clear difference between an absolute necessity and a convenience. No North Dakota farmer could farm successfully without a binder. Without this necessity he could not buy anything for the home; let alone conveniences.

There is a marked difference between producing capital and non-productive capital. Of course money making is not all in any walk of life, but it comes first and cannot be neglected. A binder is productive capital. A discussion of such utilities does not enter properly into this letter.

It is, however, certainly true that too few farms are equipped with those things which add much to the pleasure of farm life. Probably many men do spend money on useless equipment, and neglect equipment for the home. In this letter I do not intend to take anyone to task for what they do or do not do. I merely want to cite some of the things which anyone with a limited capital can provide. Remember that the business and the home cannot be separated on the farm.

Conveniences on the farm and in the farm home may be divided into two distinct classes: conveniences in arrangement and conveniences in equipment.

Conveniences in arrangement cost nothing except in planning and perhaps in some cases in re-location. It seems queer how many permanent buildings are put up and how many permanent additions to the homestead are made without any plan for convenience. Certainly a great deal of unnecessary work is performed on account of poor arrangement.

Most farm homes as compared to city homes show lack of planning. Take for instance the kitchen; it is a work shop in which much of the house labor is performed. Yet how inconvenient it is! How many extra steps are required on account of its large size! The efficiency of the worker is reduced by every extra step required. Work which might easily be performed becomes burdensome.

The cellar door is often poorly located. Everything seems to be put in without any planning. If things were as poorly arranged in factories or shops as they are in the farm home, very few of them would be successful.

It is not uncommon for the housewife to go a quarter of a mile to the well. She has to travel several rods to empty the dish water. The cellar is often several rods from the house. If all these inconveniences were totaled up, how many miles unnecessarily do you suppose the housewife travels every year in doing the necessary house work?

These matters of arrangement could be made right by a little forethought. Much of the drudgery could be saved. Besides this it does not cost anything, it merely takes a little planning. In fact it would, in the long run, effect a material saving in money.

There is no reason why good lights might not be had in the farm home. Sewage disposal can easily be effected. Water supply can be made efficient and pure water provided. The house can be well-heated with a modern heating system. The home can be made sanitary and all the other modern appliances found in the city home are available on the farm and at a reasonable cost.

The farmer who can but does not provide these things is neglecting one of the most important things in his home life. There is no logic and no justice in such neglect.

There are several good bulletins describing in detail all the modern conveniences for the farm home. These are available and I strongly recommend that you get copies and use them in your work. Keep the distinctions made clearly in mind. Show your pupils a few of the poorly arranged homesteads. I am sure you can find plenty of examples right at home. And it is not necessary to offend anyone in doing this.

On the farm the home and the business are combined. They cannot be separated. Therefore the home should be equipped with those things which will make life pleasant and enjoyable.

O. O. CHURCHILL.

### WAISTLINES RETURN TO THEIR NORMAL PLACE

**Corsets Nipped in at the Sides, Accent the Natural Curve of the Figure.**

**Cosmopolitans Follow the Craze of Blue Taffeta**

For the first time in three long years, waistlines return to their normal place. A logical review of the past few months discloses two distinct reasons for this change in fashion; first the full skirt, and second, the corset. It is not surprising that the waistline capered about when corsets were trico and the silhouette straight up and down; but now that skirts are voluminous and corsets real stays, nipped in at the sides, the joining of the waist and skirt naturally comes at the smallest part of the form, namely, the waistline, as nature placed it.



One of the New Normal Waistline Frocks Made in the Popular Blue Taffeta



It has taken many months to bring about the evolution, and even yet there are those who are loath to give up their stay-belts and back to nature corsets. When Joseph, in the early season exhibited silk frocks with normal waist-lines, many admired this couturiere's courage; but few recognized the step as a style prediction so soon to be realized.

Today, smart frocks have trim waists, definitely marked. Whether you are summering at Hopatcong, escaping the heat at a beach resort, or passing the early season in town, it is impossible to be oblivious, to this one feature, at least, of the mode. Again and again, fashion repeats herself in the ever prevalent blue taffeta dress. Wherever the New Yorker goes, you see it. If any one thinks she can dodge the clothes issue by packing up and hiking off to the country, the mountains or the shore, she is sadly but surely mistaken. In the Adirondacks you will find all the style of the Avenue. There are the girls with

their summer furs, wide sailor hats and Japanese parasols, transplanted whole from New York, without the veneer of style spoiled or blemished.

At one hotel, three hours by bus from the station, a girl from the metropolis wore a taffeta frock that literally followed letter for letter the Victorian mode. It was made of the perpetual blue taffeta with waist normal, and skirt sectional, formed of seven tiers, each successive tier fuller than the one before, gathered at the top and corded to the section above; the bodice was plain save for an inverted V-shaped vest of organdy, and a soft organdy collar: this was a product of a New York dressmaker, perfect so far as style was concerned.

So incessant is the demand for blue taffeta for these dresses, that the stores have difficulty in keeping it in stock. The craze is apparent in every department. Hats are of the French sailor type; on these the brim is slightly wider at one side than on the other, and they are worn a trifle tilted. Of

blue straw, blue taffeta, or blue French crepe, they are trimmed with wings, a single bead ornament, or gauze flowers, wired in shape. Pumps are shown in navy blue leather, smartly piped in white, and even dark blue gloves in gauntlet style have been introduced. But these are not as popular as the white silk gloves, finished with the Queen Elizabeth frills, and worn on the outside of the dress; for even blue, to be really chic, must have a dash of white for contrast.

The fancy for the popular blue will be restricted, however, by the shortage of dye material in this country. One manufacturer made the statement that we may be thankful to get any color at all if the war continues; and this, no doubt, accounts for the makers of silks trying to force black-and-white effects for midsummer and fall. Already we are seeing, here and there, in these new, normal waistline dresses, smart black-and-white effects. One silk manufacturer is showing a great variety of Grecian designs in black and white, and black and gold. So unusual and original are the patterns, that they have taken the trouble to have each copyrighted, lest manufacturers of inferior materials duplicated the designs. If this house successfully launches these silks on the market, and from their record in past seasons they undoubtedly will, women will soon be



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provide the means of a wholesome, healthful sport. They are portable—detachable—can be adjusted to boats of any kind by anyone—may be operated by children—practical for the hunter or fisherman—are equipped with built-in magneto—Maxim Silencer—have weedless propeller—can be used in fresh or salt water.

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A New Treatment of the Waistline  
in a Tub Frock of White Linen



wearing frocks with silhouetted Dicky birds and checker-boards the conspicuous theme of the material.

This dyeing and manufacturing question, however, is a chapter by itself. After all, what does it matter whether the dresses with their new-found waist-lines are white, black or colored, so long as the result is what the French term "chic"? This very thing is brought out in the tub frocks of the season where all shades of green, blue and tan are used.

At Long Beach this week, there were any number of smart pongee, linen, artificial silk, and cotton ratién costumes worn. One white linen, in particular, showed a distinctly new treatment of the waistline; two pleats in the front of the bodice formed a panel under which the straight belt of the material fastened. The skirt was laid in inverted box-pleats; the sleeves were finished with circular cuffs, and the neck with a long shawl collar of the linen, over which the girl wore a Quaker collar of sheer organdy, fastened in the front with black velvet.

There were other white dresses, too, with always the touch of black to give them the proper smartness. This was introduced sometimes in the hats; for instance, a wide-brimmed white Milan, trimmed with white daisies, had a low crown of black silk beaver and the brim edged with black straw. Again, a bag was carried for the distinct purpose of introducing a note of contrast with the dress. Many were of black, shiny motor-leather; made in soft gathered shapes with hand straps around the body portion, or in oblong wallet style with the strap on the top. Even stockings and pumps were pressed into service to give the desired effect. Perpendicular black and white stripes being best liked in the stockings; the favor in pumps being divided between white buckskin, touched with black leather, and white canvas cut in the same styles as the buck. The sensation of the season, however, are the walking sticks; another equal rights victory! In these, black, shiny sticks predominate with skin-tight silk covers, reaching from within six inches of the bottom to ten of the top. These covers are in white, checker-board, green, blue, or, in fact, any silk to correspond or contrast with the costume.

And so it goes! Now, that milady's waistline is back in its normal place, she hunts other fancies wherein to express her eccentricities.

#### WHO WILL REPLY?

North Dakota Farmer:

Could you furnish us a discussion in your paper of this subject, "Farm

Work by Children"? The following are some of the phases I'd like to see treated.

1. (a) What age begun and how much?

(b) What age field work begun and how much?

2. Should a boy be kept out of school for spring and fall work?

3. What chores should he do when he begins field work?

4. At what age should he begin shocking grain and for how long at a time?

5. Suppose a boy dislikes stock and farm work, what then?

6. At what age is a healthy boy of average size able to do a man's work on a farm?

7. At what time should a youth of sixteen rise and retire generally?

8. At what time during a rush season like seeding or threshing?

9. What is a reasonable day's work for a boy of sixteen during seeding?

10. Is a boy overworking when his appetite is good and he is gaining rapidly in weight and height?

11. Should a girl of twelve to sixteen ever be kept out of school to help at home?

12. Are farm children generally overworked?

13. Are town children?

I'd like it discussed chiefly by farmers. The views of a reputable physician who was farm-reared would be good. Also the views of Mr. Frank D. Hall, Supt. of the Children's Home Society, who often must have to think of the matter. Then the opinions of one or two who are competent to write upon the topic altho not farmers, for onlookers are often good judges.

A Subscriber.

#### "SILVER OLD AND SILVER NEW"

Every housekeeper takes pride, says Mary L. Oberlin, of the Colorado A. C., in keeping her silver bright and shining, whether her choicest collection be great-grandmother's treasured teaspoons or the latest achievement of the jeweler's art.

But whether her silver is of this year or of a century ago, the sulphur in eggs, rubber, natural gas, water, white tissue paper, and in the white cloth, so often used in making silver cases, will turn the best polish she can put on it, to a yellowish brown.

To clean by rubbing with whiting or any of the silver polishes is a long and laborous process, and one which must be repeated frequently; but an easier method, which does not injure the silver, may be employed.

Dissolve 1 teaspoon of common salt and one teaspoon of soda in one quart of water, and place in a galvanized pan. Silver placed in this solution takes on a polish without rubbing. To get results it is necessary to keep the inside of the pan thoroly clean.

By placing in the solution a small piece of zinc or the lid of a Mason jar the use of the galvanized pan becomes unnecessary and any kind of a pan may be used.

#### THE PIONEER FARMER'S CLUB

The Pioneer Farmer's Club held its meeting at the Ashgrove Farm, the home of Mr. and Mrs. C. V. Green and family, on Saturday, June 5th.

As Edna Cooper was unable to attend Crawford Parkman furnished the music.

The next meeting will be held at the Centerdale Farm, the home of Mr. and Mrs. J. M. Cooper, on June 19th.

The following program will be rendered:

Song.....	Club Song, "America"
Recitation.....	Donald Still
Duet: Neil Devlin and Geo. Cooper	
Paper (Chosen Subject) G. H. Gilbertson	
Music.....	Edna Cooper
Reading.....	Gertrude Linn
Club Journal.....	Chas. Bugbee
Music.....	Cooper Orchestra
Current Events.....	
Reporter.....	Gertrude Linn

#### SPARE YOURSELF

Every woman should spare herself as much as possible when at work. For instance if one is engaged in a task which requires constant bending, sink down on one knee and do it that way if possible. Use any simple plan that will save you a back-ache.

Try to take an interest in your work, too; don't go about it mechanically. There is a lot of drudgery in housework, it is true, but one can look forward to a bit of pleasure in store when tasks are over,—a call on a friend; a story in reserve to read; a bit of embroidery in which you are much interested. Always have some interest aside from household tasks but always let the work come first and always the most distasteful tasks first. The thing that you don't like to do, do first, and have it over before you get tired. How many women stand for an hour in the early morning chatting with a neighbor over the fence and her household tasks are undone? Let the visiting come afterwards.



## Household Hints

By Aunt Maggie

### Kerosene Uses

Kerosene is invaluable in the household. Two tablespoons added to a boiler of clothes will remove dirt that will not come out with rubbing. It will also whiten the clothes.

Clear water with kerosene in it will clean and beautifully polish windows and mirrors.

If bothered with ants, put kerosene in any cracks or pathways where they travel.

If your sewing-machine becomes gummed up and runs hard clean thoroughly with kerosene then use best, sewing machine oil.

Kerosene will clean oil cloth when other cleansers fail.

It is excellent for removing dirt from hard-wood floors.

A dust cloth sprinkled with kerosene, rolled tightly and allowed to remain so a few days before using, gives better satisfaction than using furniture oils.

Everyone knows what a very little kerosene rubbed into the scalp will do for the hair.

Also it is well known that kerosene and lard with a drop of turpentine will loosen that tight cold in the chest.

If celery is allowed to be in water six or eight hours before using it will be very tender.

If you want mashed potatoes extra nice, use the milk hot and beat until they stand up nice and flaky.

### For Wall Paper Patches

When the wall paper chances to need a patch, and the new paper is conspicuously bright compared with the old, hang the new piece in the sunshine, watch closely, and you will soon sun-tone to match the old paper. You may then patch your wall and the patch will be hardly noticeable.

### To Clean the Sewing Machine

To clean sewing machines, cover all the bearings with kerosene oil, run the machine vigorously for a few minutes, then rub all the oil off with a piece of soft rag, and apply machine oil to the parts which need oiling.

### Destructive Properties of Salt

Never allow salt to remain in anything made of rubber; for instance, hot water bags, or syringes. Rinse them out thoroly or the rubber will soon rot to pieces.

When sheets wear out in the center one can make a pair of pillow-cases from the sides which are still good, and which will wear as long as the new sheet bought to replace the old one.

When hemming table linen, if you find it difficult to draw the thread for the straight line, dampen the linen with a little soap and water. This also applies to any drawn work.

### Rust-Stain Remover

A good way to remove rust stains is to use boiling rhubarb-juice; the worst spots will yield to this without injury to the fabric.

### To Keep Butter Firm

A cloth wrung out of cold water and then placed over the top and around the sides of the butter-dish will keep butter almost as firm as if in a refrigerator. The dish may be kept even in a hot kitchen if it is placed in a draft. This increases the evaporation of the water—the secret of the whole thing.

### To Test Fruit for Pectin

Some fruits are lacking in pectin, the component which is necessary to make them "jell." To test fruit-juice to see if it has the necessary pectin in it, add a small amount of a 15 per cent solution of grain-alcohol to an equal amount of the fruit-juice. If the mixture remains clear, it will not "jell," but if it becomes murky

when cooled, you may be sure that it has the requisite amount of pectin in it. I have also found that by adding a medium-sized sliced carrot to every quart of juice the necessary pectin will be supplied to fruits which lack it. The carrots do not affect the taste, but do make the juice "jell" when it would not, unless they were present.

### A Stove-Blackening Help

Ranges often become rough from accumulations of polish. I have found that the surface may quickly and easily be put in perfect condition by the occasional use of sandpaper before the polish is applied. This frees the surface from all irregularities, and results in a greatly improved appearance of the range.

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## Seasonable Receipts

Edited by Mrs. Sadie Baird.

### DAINTIES FOR THE INVALID

#### Sponge Cake

Two cups of sifted flour, one and a half cups of pulverized sugar, a half cup of cold water, two tablespoons of lemon juice, two teaspoons of baking powder, four eggs. Beat the yolks, add sugar, half to yolks and half to whites; when both have been well beaten, stir gently together and then add water and flour. Do not beat, and bake till the cake leaves the side of the pan. This is the "invalid's own," and is very good, no matter how dry it becomes.

#### Orange Pudding

One-half cup of sugar, two tablespoons of rolled cracker crumbs, one egg, one small orange (grate the rind of half only), a pint of milk or water. Bake like custard and serve cold.

#### Fruit Blancmanage

A cup of any fruit juice, fresh or canned, heated, sweetened to taste and thickened with a tablespoon of cornstarch. Cook well and serve cold with milk. If a little less cornstarch is used, and, when nearly cold, the stiffly beaten white of an egg is added, a delicious float is the result. All juices should be strained.

#### Cake Frosting

A cake frosting which is novel and good is made as follows: express juice from ripe strawberries until there is about three tablespoons, then stir in confectioner's sugar till of a creamy consistency. When the cake is frosted, cut thin slices from the heart of a few large strawberries, and place over the top of the cake. Other fruit juices may also be used in the same way.

Boiled or roasted meat which is to be used cold may be wrapped in a wet cloth before putting away, and it will be moist and tender.

#### Gooseberry Conserve

Six quarts of green gooseberries, two pounds seeded raisins, five pounds sugar, five oranges, juice of all; peel of three. Remove stems from berries and chop raisins rather coarsely. Cut oranges into halves, and remove juice and pulp, discarding seeds. Cook the peel of three of them until soft in enough boiling water to cover, changing the water once or twice. Drain, remove the white part from the peel by scraping with spoon, then cut it into narrow strips with scissors. Put berries, sugar, raisins, orange

pulp, juice and rind in granite kettle; heat slowly to boiling point and boil 20 minutes, or until syrup is thick. Put in small jars and seal.

#### Pie Plant Conserve

Ten cups chopped pie-plant, eight cups sugar, three oranges (juice and rind), one lemon (juice and pulp only). Boil the orange peel in three different waters, then chop thru meat grinder. Boil all together for about one-half hour.

#### Cheese Filling for Sandwiches

One pound cheese, one cup sweet cream, pinch salt, one-fourth teaspoon pepper, one-half teaspoon mustard. Mix all together over hot water.

#### Meat Sandwiches

Finely chopped chicken and tongue or ham mixed with lettuce leaf torn in small pieces and all mixed with salad dressing makes a good filling.

#### Lettuce Sandwich

Spread bread with butter; place lettuce leaf covered with salad dressing between.

#### Flaky Pie Crust

One cup of lard to three of flour, pinch of salt and one teaspoon baking powder. Beat white of one egg, slightly; add to it five tablespoons cold water. Mix lightly with flour and lard, and the crust will be very flaky.

#### Rhubarb Pie

One cup rhubarb cut up small, one cup sugar; let stand ten minutes, then add an egg well beaten and one tablespoon flour. Beat all well together and bake with two crusts.

#### Rhubarb Pie

One and one-half pounds rhubarb chopped, one cup seeded raisins chopped, three cups sugar, one-half cup flour. Dot with bits of butter; bake with two crusts. Enough for three pies.

#### Potato Cake

Four eggs, one cup mashed potato, one cup nuts, two cups sugar, one cup butter, one cup raisins, one teaspoon each of cinnamon, cloves and nutmeg, five teaspoons melted chocolate, one-half cup milk, four cups flour, two teaspoons baking powder.

#### Salmon Salad

Place on a bed of lettuce the contents of a half a can of salmon, freed from bones. Pour over the fish, boiled salad dressing or mayonnaise, then garnish with slices of hard-boiled eggs and lemons.

Mince one can salmon; add one cup stale bread crumbs—white, no crust; two beaten eggs, one-half cup milk. Season to taste with salt, pepper, parsley and lemon juice. Put in mold and steam or bake thirty minutes. Serve with sauce.

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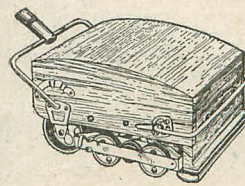
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THE THOMPSON FIELD CO.,  
13-21 Park Row, N. Y.

THE THOMPSON FIELD CO. Dept. W 13-21 Park Row, N. Y.

Please send prepaid one Torrington Regent Vacuum Cleaner as per your special 10 day free trial offer. This places me under no obligation to buy.

Name.....  
Town.....  
State..... Date.....





## Which Will You Have

Here are two cans of Paint.

Both are exactly the same size.

One will cost you \$2.25 per gallon. The other will cost perhaps as little as \$1.50 per gallon, but the Mound City Horse Shoe Brand at \$2.25 per gallon will cost you less in the end.

Reason? Simple enough.

Because a gallon of "Horse Shoe Paint" will cover a larger surface than the cheaper grade, and fewer gallons are required for the job. By actual test you will find that six gallons of "Horse Shoe Paint" (enough for two coats on a house measuring 2100 square feet) will go as far as ten gallons of the \$1.50 kind.

In other words, you invest \$13.50 in "Horse Shoe Paint," against \$15.00 in the cheaper grade.

Not only this, but the Horse Shoe Brand is bound to outwear the other two to one, making the Horse Shoe Brand far more economical in the end.

You save on the total cost of material.  
You save in labor, because of the long life of the Horse Shoe Brand.

You save once more in the satisfaction of knowing that your property is beautified and protected with the highest quality of painting material that modern skill and science has yet developed.

AGAIN!! Mr. Property Owner:—  
Which will you have?

### Mound City "Horse Shoe Brand" Paint

Sold only by

Paint, Hardware, Lumber and Drug stores

Write for name of your nearest dealer

## Mound City Paint & Color Co.

MANUFACTURERS - ST. LOUIS, U. S. A.

NORRIS B. GREGG, Pres.

WM. H. GREGG, Jr., Vice-Pres.

E. H. DYER, Sec.